Thyristor Controlled Phase Shifter Based Stabilizer Design Usingsimulated Annealing Algorithm

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Summary

This paper presents a thyristor controlled phase shifter (TCPS) based stabilizer design using the simulated annealing (SA) algorithm. An eigenvalue based objective function to increase the system damping is proposed. Then, SA algorithm is employed to search for optimal setting of stabilizer parameters. Two different control schemes have been proposed and tested on a weakly connected power system with different disturbances and loading conditions. It was also observed that the TCPS controller provides efficient damping of low frequency oscillations and improves greatly the voltage profile of the system under severe disturbances